



Belvac Production Machinery Technical Bulletin

Information for Customers Operating & Maintaining Belvac Machines

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595 Modular Machinery GEARBOX REPLACEMENT

Replacing SIPCO reducers:

This technical bulletin is announcing a change in gearbox specifications applying to all new Necker systems purchased since 2003, as well as some fixed base conversions. This bulletin supersedes Technical Bulletin issue #07 vol. 6.

Dodge Reducers:

Belvac has partnered with **Dodge**, a division of **Rockwell Automation**. Dodge has more than a century of industrial automation expertise, and offers diverse solutions for customers in the aggregate, mining, food, forest products, metal, HVAC, environmental, automotive, petrochemical, and unit handling industries. The Dodge Quantis gear reducer product line compliments Belvac's 595 Modular Machinery power and assembly requirements.

Belvac has created conversion kits to effectively replace SIPCO reducers (as well as earlier model brands) after their useful service. The basic kit generally consists of:

- 1) Replacement Gearbox
- 2) Drive Shaft
- 3) Mounting Hardware
- 4) Drive Guard

The estimated time to install a kit is two to three man hours: A lift device and torque wrench will be required.

NOTE: In some instances it may be necessary to change the orientation of the motor's junction box due to its proximity to the new Dodge reducer.

For greatest ease of installation, Belvac offers two styles of conversion kit:

- 1) Basic kit including speed pulleys, bushings and replacement belt.
 - a) For 7.5 to 20 hp [5.5 to 15 KW]
 - b) For 25 to 40 hp [18.5 to 30 KW]
 - c) For 50 hp [37 KW]
 - d) For 60 to 75 hp [45 to 55 KW]
 - e) For 100 to 150 hp [75 to 112 KW]
- 2) Basic kit **without** speed pulleys, bushings and belt. These kits are designed for customers who prefer to address pulleys, bushings, belts, etc. on their own.

Please supply Belvac with motor frame size to properly determine motor bushing requirement.

The following charts will assist in the selection of the appropriate Dodge replacement kit. Please contact Belvac Sales and Service if there are any questions about kit selection.

Chart #1. BASIC KITS WITH SPEED PULLEYS:

Modular Base Machinery: Conversion to Dodge Reducers						
1A	MOTORS: 213T, 215T, 254T, 256T					
	MOTORS: 132S, 132M, 160M, 160L					
	HORSEPOWER [KW]: 7.5 [5.5], 10 [7.5], 15 [11], 20 [15]					
	SPEED RANGE (CPM)**	KIT NUMBER (INCLUDES REDUCER)	DODGE REDUCER P/N <i>REF. ONLY</i>	SIPCO REDUCER P/N <i>REF. ONLY</i>	MOTOR BUSHING* ITEM 2017	ACTUAL FREQUENCY RANGE (HZ)
60Hz	2500-3000	2754153	C71021	C10034	E X MSD	48.00-60.00
	2000-2499	2754154	C71021	C10034	E X MSD	46.76-60.00
	1600-1999	2754155	C71021	C10034	SF X MSD	46.25-60.00
50Hz	2500-3000	2754156	C71021	C10034	E X MSD	39.92-50.00
	2000-2499	2754153	C71021	C10034	E X MSD	38.45-50.00
	1600-1999	2754154	C71021	C10034	E X MSD	37.47-50.00

Modular Base Machinery: Conversion to Dodge Reducers						
1B	MOTORS: 284T, 286T, 324T					
	MOTORS: 180M, 180L, 200M					
	HORSEPOWER [KW]: 25 [18.5], 30 [22], 40 [30]					
	SPEED RANGE (CPM)**	KIT NUMBER (INCLUDES REDUCER)	DODGE REDUCER P/N <i>REF. ONLY</i>	SIPCO REDUCER P/N <i>REF. ONLY</i>	MOTOR BUSHING* ITEM 2017	ACTUAL FREQUENCY RANGE (HZ)
60Hz	2500-3000	2754159	C71022	C10036	E X MSD	49.84-60.00
	2000-2499	2754160	C71022	C10036	E X MSD	47.91-60.00
	1600-1999	2754161	C71022	C10036	E X MSD	47.63-60.00
50Hz	2500-3000	2754162	C71022	C10036	F X MSD	41.30-50.00
	2000-2499	2754159	C71022	C10036	E X MSD	39.94-50.00
	1600-1999	2754160	C71022	C10036	E X MSD	38.39-50.00

Modular Base Machinery: Conversion to Dodge Reducers						
1C	MOTORS: 326T, 200L					
	HORSEPOWER [KW]: 50 [37]					
	SPEED RANGE (CPM)**	KIT NUMBER (INCLUDES REDUCER)	DODGE REDUCER P/N <i>REF. ONLY</i>	SIPCO REDUCER P/N <i>REF. ONLY</i>	MOTOR BUSHING* ITEM 2017	ACTUAL FREQUENCY RANGE (HZ)
60Hz	2500-3000	2754165	C71022	C10037	E X MSD	49.84-60.00
	2000-2499	2754166	C71022	C10037	E X MSD	47.91-60.00
	1600-1999	2754167	C71022	C10037	E X MSD	47.63-60.00
50Hz	2500-3000	2754168	C71022	C10037	F X MSD	41.30-50.00
	2000-2499	2754165	C71022	C10037	E X MSD	39.94-50.00
	1600-1999	2754166	C71022	C10037	E X MSD	38.39-50.00

* MSD = Motor Shaft Diameter

** For speed ranges outside of those listed, contact Belvac Sales and Service.

Chart #1. BASIC KITS WITH SPEED PULLEYS: (continued)

1D	Modular Base Machinery: Conversion to Dodge Reducers					
	MOTORS: 364T, 365T, 225S, 225M					
	HORSEPOWER [KW]: 60 [45], 75 [55]					
	SPEED RANGE (CPM)**	KIT NUMBER (INCLUDES REDUCER)	DODGE REDUCER P/N REF. ONLY	SIPCO REDUCER P/N REF. ONLY	MOTOR BUSHING* ITEM 2017	ACTUAL FREQUENCY RANGE (HZ)
60Hz	2500-3000	2754171	C71023	C10037	F X MSD	48.36-60.00
	2000-2499	2754172	C71023	C10037	E X MSD	47.62-60.00
	1600-1999	2754157	C71023	C10037	E X MSD	47.67-60.00
50Hz	2500-3000	2754158	C71023	C10037	F X MSD	40.00-50.00
	2000-2499	2754171	C71023	C10037	F X MSD	38.75-50.00
	1600-1999	2754172	C71023	C10037	E X MSD	38.16-50.00

1E	Modular Base Machinery: Conversion to Dodge Reducers					
	MOTORS: 405T, 444T, 445T, 250M, 280S, 280M					
	HORSEPOWER [KW]: 100 [75], 125 [93], 150 [112]					
	SPEED RANGE (CPM)**	KIT NUMBER (INCLUDES REDUCER)	DODGE REDUCER P/N REF. ONLY	SIPCO REDUCER P/N REF. ONLY	MOTOR BUSHING* ITEM 2017	ACTUAL FREQUENCY RANGE (HZ)
60Hz	2500-3000	2754163	C71023	C10033	J X MSD	48.17-60.00
	2000-2499	2754164	C71023	C10033	F X MSD	46.09-60.00
	1600-1999	2754169	C71023	C10033	J X MSD	45.17-60.00
50Hz	2500-3000	2754170	C71023	C10033	J X MSD	41.01-50.00
	2000-2499	2754163	C71023	C10033	J X MSD	38.56-50.00
	1600-1999	2754164	C71023	C10033	F X MSD	36.90-50.00

* MSD = Motor Shaft Diameter

** For speed ranges outside of those listed, contact Belvac Sales and Service.

Chart #2. BASIC KITS LESS SPEED PULLEYS:

Modular Base Machinery: Conversion to Dodge Reducers								
Conversion Kit (Including Reducer)	Motor HP	Dodge Reducer P/N (Reference Only)	Dodge Ratio	Sipco Reducer P/N (Reference Only)	Sipco ratio	Avg VFD Hz Increase with Reduction	Dodge reducer input shaft diameter	Reducer Bushing change required
2754133	7.5-20	C71021	12.90:1	C10034	10.9:1	10	42 MM	Yes
2754135	25-40	C71022	12.56:1	C10036	10.3:1	12	55 MM	Yes
2754145	50	C71022	12.56:1	C10037	10.8:1	9	55 MM	Yes
2754139	60-75	C71023	13.00:1	C10037	10.8:1	11	60 MM	Yes
2754134	100-150	C71023	13.00:1	C10033	10.5:1	13	60 MM	Yes

The new Dodge Quantis reducer is standard on all new Belvac machinery shipments effective January 1, 2006.